In the claims:

All of the claims standing for examination are presented below with appropriate status indication.

1- 35. (Canceled)

36. (New) A distributed processor packet router, comprising:

a plurality of primary line cards each comprising a plurality of communication ports connected to lines external to the packet router, and each comprising a processor executing software managing operation of the primary line card, including the plurality of communication ports;

a backup line card comprising a backup communication port connected to a line external to the packet router, a communication link to each of the primary line cards, a processor executing software managing operation of the backup line card, including the backup communication port, and a digital memory; and

a control card having a digital communication link to each of the primary and the backup line cards;

wherein the control card communicates state and configuration data regarding the plurality of communication ports to the digital memory at the backup line card, the data including priority ranking for individual ones of the communication ports, and in the event of failure of one of the plurality of communication ports, the processor at the primary line card supporting that communication port instructs the processor at the backup line card to operate the backup communication port using the state and configuration data that is stored in the digital memory for the failed communication port, the processor at the backup line card follows the instruction if the backup port is at that time not in use, and if the backup port is in use, follows the instruction only if the priority of the newly failed communication port is higher ranking than the port for which backup is at that time being performed.

37. (New) A method for backing up ports in a distributed processor packet router, comprising the steps of:

(a) communicating, by a control card, state and configuration data regarding primary communication ports implemented on a plurality of primary line cards to a digital memory at a backup line card having at least one backup communication port, the data including priority ranking for individual ones of the communication ports;

(b) receiving an instruction at the backup line card to operate the backup communication port according to the state and configuration data associated with one of the primary communication ports;

(c) following the instruction if the backup communication port is not in use; and

(d) if the backup communication port is in use, following the instruction only if the primary communication port associated with the instruction has a higher priority than the primary communication port for which the backup communication port is in use.